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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,516

07/25/2003

Rafiq Hussain

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06/15/2004

LAW OFFICE OF MONICA H CHOI
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EXAMINER

NGUYEN, PHUONGCHI T

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,516

Applicant(s)

HUSSAIN ET AL.

Examiner

Phuongchi Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 5, line 30, “an actuation lever 214” is renamed as “the forking leads 214” on page 6, line 24. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 7-8, 10-18, 21-22 and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Pickles et al (US5766021).

In regarding to claims 1 and 15, Pickles et al discloses a socket system for coupling a pin (208, 310) of an IC (integrated circuit) device (207, 312) (figures 11 and 12) to a contact pad (it is inherent) of a circuit boards (102) (figure 8) comprising a zif (zero-insertion-force) opening (where contacts 100, 204, 316 located) on a socket (106, 252, 304) that asserts substantially zero force as the pin (208, 310) of the IC device (207, 312) is inserted therein; and a compression mount lead (114, 202, 314) on the socket (106, 252, 304) that presses against the contact pad (it is inherent) of the circuit board (102) (since 102 is a circuit board, 102 must provide the pads electrically to contact with the mounting leads 114, 202, 314).

In regarding to claims 2 and 16, Pickles et al discloses the socket system wherein the pin (208, 310) becomes coupled to the compression mount lead (114, 202, 314) after being inserted into the zif opening (where contacts 100, 204, 316 located) (figures 8, 11 and 13).

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In regarding to claims 3 and 17, Pickles et al discloses the socket system further comprising forking leads (112, 206, 318) coupled to the compression mount lead (114, 202, 314) and surrounding the pin (208, 310) within the zip opening (where contacts 100, 204, 316 located); and an actuation plate (108, 306) and an actuation lever (308) that press the forking leads (112, 206, 318) against the pin (208, 310) such that the pin (208, 310) is coupled to the compression mount lead (114, 202, 314) via the forking leads (112, 206, 318) (figures 8, 11 and 13); (the embodiment of figure 8 has the same characteristic as the embodiment of figures 11 and 13).

In regarding to claims 4 and 18, Pickles et al discloses the socket system wherein top portions of the forking leads (206) contact a top portion of the pin (208) toward the IC device (207) (figures 9 and 11)(since the forking leads 206 are closed and full contacting the pin 208, that will minimize the length between the pins 208 and the leads 206, and also minimize the length between the leads 206 and the board 102).

In regarding to claims 7 and 21, Pickles et al discloses the socket system wherein the socket (106, 252, 304) is mounted onto the circuit board (102) such that the compression mount lead (114, 202, 314) presses against the contact pad (it is inherent) (for electrical contacting) (of the circuit board).

In regarding to claims 8 and 22, Pickles et al discloses the socket system wherein substantially zero force is asserted on the body of the IC device (207, 312) when the pin (208, 310) is coupled (through contacts 100, 204, 316 and mount leads 114, 202, 314) to the contact pad (it is inherent) (of the circuit board).

In regarding to claims 10, 11, 24 and 25, Pickles et al discloses the socket system wherein the socket (252, 304) and the circuit board (102) are part of a test system for testing the IC device

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(Abstract, line 3) and can be parts for an OEM (original equipment manufacturer) machine (since OEM is a board term to described any machine).

In regarding to claim 12, Pickles et al discloses a socket system for coupling a pin of an IC (integrated circuit) device to a contact pad of a circuit board, comprising means for asserting substantially zero force on the pin (208, 310) of the IC device (207, 312) as the pin (208, 310) is inserted into a zif (zero-insertion-force) opening (where contacts 100, 204, 316 located) on a socket (106, 252, 304); and means for coupling the pin (208, 310) of the IC device (207, 312) within the zif opening (where contacts 100, 204, 316 located) to the contact pad (it is inherent) of the circuit board (102).

Claim 13 is rejected for the same reason of claim 4.

In regarding to claim 14, Pickles et al discloses the socket further comprising means for asserting substantially zero force on the body of the IC device (207, 312) when the pin (208, 310) is coupled to the contact pad (it is inherent) (of the circuit board).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pickles et al (US5766021) in view of Applicant Admit over Prior Art (AAPA).

In regarding to claims 5 and 19, Pickles et al discloses the invention, but lacks a pogo spring. However, AAPA teaches the compression mount lead (116) is comprised of a pogo spring (128) (figure 1). It would have been obvious to one having ordinary skill at the time the

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invention was made to modify the mount lead of Pickles et al by providing a pogo spring as taught by AAPA for pushing the bottom end of the lead against the contact pad on the circuit board.

6. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pickles et al (US5766021) in view of Ohkita et al (US6558182).

In regarding to claims 6 and 20, Pickles et al discloses the invention, but lacks a J-bend lead. However, Ohkita et al teaches the compression mount lead (106) is comprised of a J-bend lead (108) (figure 3). It would have been obvious to one having ordinary skill at the time the invention was made to modify the mount lead of Pickles et al by providing a J-bend lead as taught by Ohkita et al for increasing the contact surface of the leads to the circuit board.

7. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pickles et al (US5766021).

In regarding to claims 9 and 1523, Pickles et al discloses the invention, but lacks a back plate. It would have been obvious to one having ordinary skill at the time the invention was made to add on the socket system of Pickles et al an extra plate mounted to a back-side of the circuit board for increasing the foundation of the circuit board in the socket. The extra plate can be another circuit board or any other board.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Petersen (US5123855), Kawano et al (US4815987) and Ichimura et al (US4887974) have socket system with actuator and lever. Backhuff (US4082399) and 38Havel (US4684193) have a socket with spring.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchi Nguyen whose telephone number is (571) 272-2012. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PCN

June 2, 2004



ROSS GUSHI
PRIMARY EXAMINER